Remarks

The Action has required new application papers. Attached herewith is the entire application with 1 inch top margins.

Claims 1-58 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of the co-pending Application No.09/591,691.

It is respectfully submitted that the applicants have abandoned and hereby expressly abandon the co-pending Application No.09/591,691 in favor of the present application. To the extent there is any right to revive the application, the applicants hereby waive such right. Therefore, it is believed that the grounds for the obviousness-type double patenting have been overcome.

Claim 30 has been amended to change the limitation of "Time Modulated Ultra Wideband Transmitter" to -- Ultra Wideband Transmitter -- and has been further amended to change the limitation of "Time Modulated Ultra Wideband Receiver" to -- Ultra Wideband Receiver --. It is respectfully submitted that the use of time modulation only applies to one of the embodiments covered by the claimed invention. One skilled in the art would recognize that other forms of modulation of an ultra wideband signal may be used in accordance with the present invention, for example, pulse amplitude modulation, pulse polarity modulation, etc.

Claims 1, 5, 8-16, 22, 23, 29, 30, 34, 37-45, 51, 52 and 58 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 6,212,230 to Rybicki et al (Rybicki et al).

As explained further below, Rybicki et al. do not anticipate the newly amended claimed invention as they do not disclose, each and every one of the claimed limitations in a single reference.

Claims 1 and 30, as now amended, relate coding at least one characteristic of at least one pulse within a pulse train by specifying at least one pulse characteristic relative to at least one non-fixed reference; and applying a delta code for specifying said at least one pulse characteristic relative to said at least one non-fixed reference to define a communication

channel. It is respectfully submitted that Rybicki et al. fail to disclose generating a code that defines a communications channel.

Rybicki et al. teach a method and apparatus for pulse position modulation for a received digital data stream. An encoding process obtains a set of bits from the digital data stream and modulates the set of bits into a pulse having a pulse width. Next, a transition edge of the pulse is positioned at one of a plurality of time intervals within a time chip based on the set of bits. According to Rybicki et al., the pulse width is greater than each of the plurality of time intervals.

As such, unlike the present invention, Rybicki et al. teach a modulation method for encoding information. In contrast, the claimed invention relates to channelization. No such arrangement is taught or suggested by Rybicki et al. This is because channelization, which defines communication channels, and modulation are independent processes. As is well known channelization can be used for communicating modulated or un-modulated (e.g., radar) information. Conversely, it is not necessary to modulate information using channelization. Therefore, Rybicki et al. fail to anticipate the claimed invention because they do not teach or suggest using codes for channelization.

Accordingly, in view of the above amendments, it is believed that the remaining claims of the present invention are in condition for allowance.

Respectfully submitted,

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